NATIONAL INSTITUTES OF HEALTH
WARREN GRANT MAGNUSON CLINICAL CENTER
NURSING DEPARTMENT

Standard of Practice: Care of the Patient Receiving a Continuous Intracranial Infusion Via an External Infusion Pump

I. Assessment

A. The patient's neurological status and vital signs will be assessed immediately prior to infusion initiation and then every hour for the first 6 hours after infusion initiation and with each dose escalation, then every 2 hours for the next 4 hours, and then every 4 hours until the completion of the infusion and for 24 hours post infusion. The minimal neurological assessment will include:
   1. Level of consciousness and mental status
   2. Cranial nerves 2, 3, 4, 5, 6, 7, 9 and 10
   3. Motor power
   4. Signs and symptoms of intracranial hypertension.

B. The patient's head dressing will be assessed every hour.

C. The nurse will inspect the pump and infusion system every 1 hour for:
   1. Integrity of the catheter and infusion tubing.
   2. Bleeding or drainage at the catheter site.
   3. Infusion rate and volume infused as per prescriber's order
   4. Absence of tension on catheter and tubing.

II. Interventions

A. Label the catheter and infusion system with pre-printed color coded label: "Intracranial Catheter".

B. The nurse may reinforce a loose dressing. Complete dressing change will be performed by the prescriber.

C The nurse will instruct the patient to :
   1. Avoid touching the dressing, infusion tubing, and pump.
   2. Call the nurse if the alarm sounds.
   3. Call the nurse if any leakage, bleeding or drainage is noted.
   4. Call the nurse for symptoms of intracranial hypertension: Restlessness, confusion, lethargy, headache, visual changes, weakness, sensory changes, nausea and vomiting.

D. All initial and subsequent infusions will be initiated by the prescriber.

E. All pump programs changes will be made by the prescriber.

F. Notify the prescriber if any one of the following occurs:

1. Changes in neurological status
2. Drainage from catheter insertion site
3. Infusion pump dysfunction
4. One to two hours prior to each infusion completion and each pump refill

G. Monitor Intake and Output throughout the infusion. Record hourly and cumulative infusion volumes.

III. Documentation

A. Document intake and output including hourly infusion amounts.
B. All nursing assessments and interventions.
C. Document the start and end of each infusion.
D. Patient and family education.
E. Patient's response to interventions.

References

1. Barker, E. (1994). *Neuroscience Nursing*. St. Louis: Mosby.
2. Hickey, J. (1997). *The Clinical Practice of Neurological and Neurosurgical Nursing*. (4th ed.). Philadelphia: J. B. Lippincott.
3. Stewart-Amidei, C., & Kunkel, J. (Ed.). (2001). *AANN's Neuroscience Nursing: Human Responses to Neurologic Dysfunction.* (2nd ed.). Philadelphia: W.B. Saunders.

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